Notes on Indo-Pacific Scleractinian Corals, Part 3
A New Reef Coral from New Caledonia

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IN 1957 Dr. R. L. A. Catala of the Station de Biologie Marine, Nouméa, New Caledonia, discovered the brilliant fluorescence in ultraviolet light of the polyps of reef corals living in deeper waters (see, Nature 1(83): 949, 1959; Life 47(3): 64–65, 1959; 26 franc postage stamp of New Caledonia issued March 21, 1958). Dr. Catala kindly sent the writer a collection of these corals, together with photographs of many of them living in the Aquarium de Nouméa. The specimens came from a depth of 35–40 m. on Banc Gail, in the lagoon of Nouméa about 10 mi. from the Aquarium, and were collected by Dr. Yves Merlet, for whom the new species described below is named. The scleractinian fauna includes these species:

Montipora caliculata (Dana)
M. verrucosa (Lam.)
Goniopora lobata Milne Edwards & Haime
Favia speciosa (Dana)
Favites abdita (Ellis & Solander)
Platygyra lamellina (Ehrenberg)
Echinopora hirsutissima M. E. & H.
Trachyphyllia geoffroyi (Audouin)
Galaxea fascicularis (Linn.)
Bantamia merleti sp. nov.
Cynarina lacrymalis (M. E. & H.)[2]
Protolobophyllia japonica Yabe & Sugiyama[2]
Lobophyllia corymbosa (Forskaal)
L. hemprichi (Ehrenb.)
Symphyllia recta (Dana)
Mycedium elephantotus (Pallas)
Euphyllia picteti Bedot[3]
Plerogyra sinuosa (Dana)

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[2] These two species will be the subject of a subsequent note.

[3] Photographs by Dr. Catala of the living coralla of this species show an exact similarity, including color, between its polyps and those of *Pectinia jardinei* Saville-Kent (1893: 39; 1958: pl. 25, fig. 3, and chromo pl. 4, fig. 7) from the northern part of the Great Barrier Reef, and this form probably should be termed *Euphyllia jardinei* (Saville-Kent). *E. picteti* was originally described from Amboina by Bedot and has been reported by the writer (1955: 26) from Port Newry, Queensland.

FAMILY OCULINIDAE

SUBFAMILY GALAXEINAE

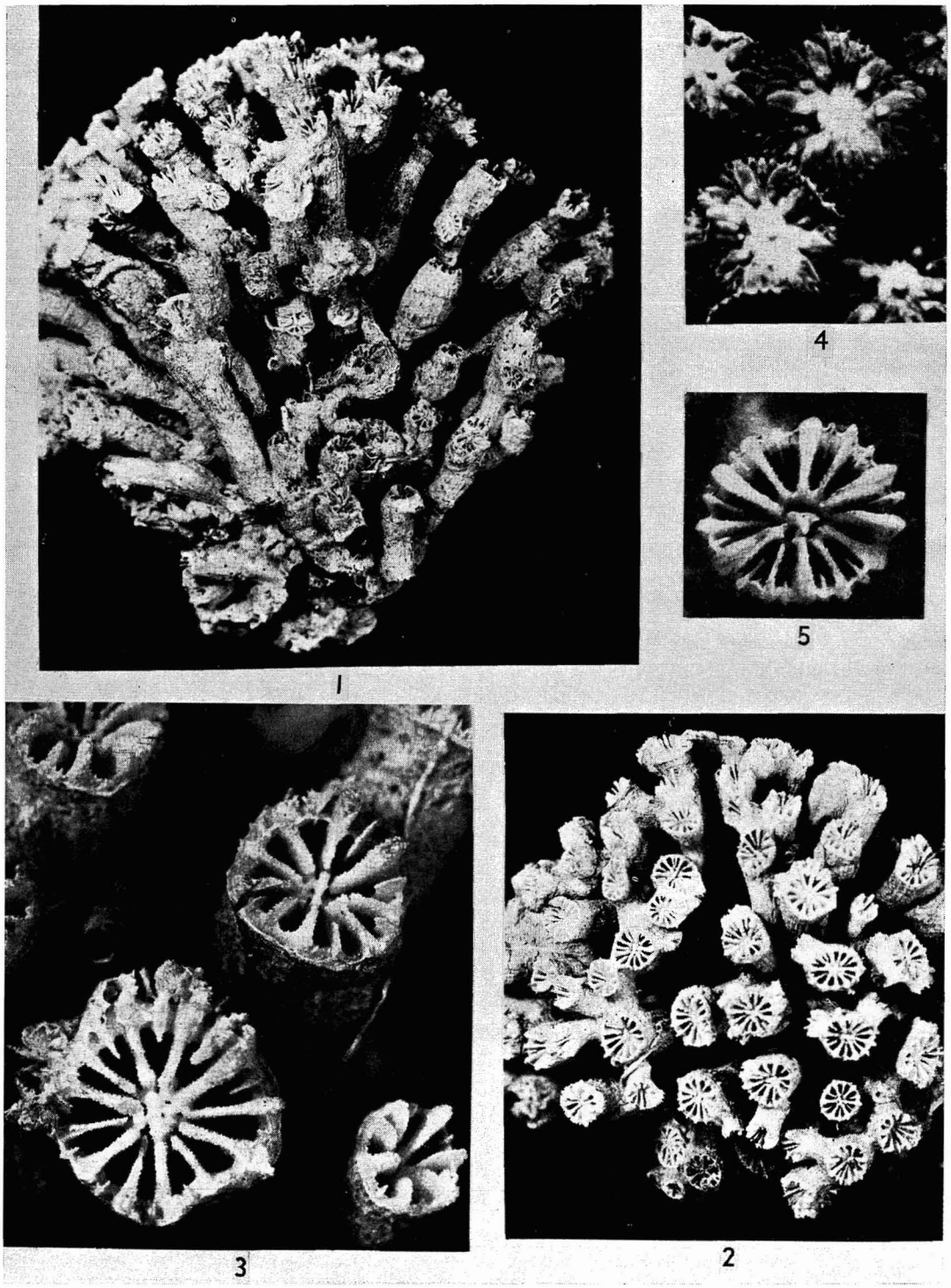
GENUS *Bantamia* Yabe & Eguchi 1943

Bantamia merleti sp. nov.
Figs. 1–4

Corallum fasciculate, 10 cm. in height, 10 cm. broad (holotype), formed by cylindrical corallites, 5–7 mm. in diameter, 4–7 mm. apart, arising by extratentacular budding from a very narrow edge-zone near the calices, at first subhorizontal, then becoming erect and subparallel and losing organic connection with parents. Exterior of corallites costate only near calices, epithecate below, completely lacking any exothecal structures. Calices circular or slightly compressed, 5–7 mm. in diameter, shallow. Septa exsert 1–1.5 mm. near the wall, dropping to low inner lobes near the columella. Septal margins thickened where exsert, nondentate but finely granulated, the granulations extending down septal sides where they are evenly distributed. Septa of first two cycles (12) equal and extending to columella; a few very thin, short septa of the third cycle developed in some systems. Costae weakly developed by narrow edge-zone near calices; in some corallites the edge-zone is not developed and the wall appears epithecal. Columella formed by interlaced loose trabecular processes from inner margins of septa, with one to three granulate papillae arising in bottom of the calice and commonly having a sublamellar aspect. Endotheca consisting of widely spaced, deeply concave single vesicles, the latest ones about 5 mm. below bottom of calice.

Polyps pale brown with pale yellow-green peristomes. Peristomes fluorescing a pale emerald green, the remainder a pale orange-brown.

The reference of this species to *Bantamia* is fairly certain on the basis of Yabe and Eguchi's careful description of the unique specimen of *B. gerthi* from the Miocene deposits of Java. *B. merleti*, also known from a unique specimen, lacks the feeble development of vesicular exo-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theca found in the angles of the branches, has fewer septa in the adult corallites, and has concave rather than tabulate endothecal dissepiments. The range of *Bantamia* thus appears to be extended from the Miocene time to the Recent epoch. *B. merleti* is apparently not a surface reef type but is confined to the deeper lagoon waters.

Yabe and Eguchi considered *Bantamia* to be closely related to *Galaxea*, differing only in the almost complete reduction in *Bantamia* of the extensive vesicular endotheca of *Galaxea* (or the converse?). This skeletal difference implies an almost complete lack of edge-zone in the polyps of *Bantamia*, a distinction confirmed by *B. merleti*. The striking similarity of the calice, septa, and columella of the two genera is emphasized by comparison of the calices of *B. merleti* (Fig. 3) and *G. fascicularis* (Fig. 5). On the other hand, a color photograph by Catala of the living holotype colony of *B. merleti* indicates a considerable difference in the polyps of the two genera. This is not clearly shown in the enlargement (Fig. 4), for the polyps are evidently not fully expanded. According to Fowler (1890: 409) and Matthai (1914: 59), the tentacles of *Galaxea* are ento- and exocoelic, arranged in two rings of 12 each around the prominent (when expanded) oral cone. Saville-Kent (1893: chromo pl. 4, figs. 8–12) and Yonge (1930: 24, fig. 10) show them in a single ring near the edge of the oral disc, the 6 over the first cycle septa standing erect around the oral cone, the 6 of the second cycle and the 12 of the third cycle smaller and normally pointing outwards. The polyps of *Galaxea* are usually partly expanded even in daylight. In *B. merleti* the tentacles total 96, arranged in five alternating rings over the outer half of the oral disc, in the center of which is a small protuberant oral cone. It would appear that the inner three rings, totaling 24 tentacles, are entocoelic, overlying the entocoeles of the mesenterial couples containing the first two cycles and developed parts of the third cycle of septa, in decreasing order of size. The next 24 tentacles, near the periphery, are also entocoelic without corresponding fourth cycle septa. The outer marginal ring of 48 small tentacles is probably exocoelic and extends like a fringe around the edge of the oral disc.

The external morphology of the living reef corals is not yet well enough known to evaluate the taxonomic worth of such differences in tentacular number and arrangement.

Holotype to be deposited in the U. S. National Museum.

Locality: 35–40 m. depth, Banc Gail, Nouméa lagoon, New Caledonia.

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FIGS. 1–4. *Bantamia merleti* n. sp. 1, 2, Lateral and calicular aspects of holotype corallum, ×1; 3, calices, ×4; 4, partially expanded polyps of holotype, ×4 (from color photo by R. Catala).

FIG. 5. Calice of *Galaxea fascicularis* (Linn.), Amboina, ×8 (Bedot, 1907: pl. 11, fig. 44).